



UNITED STATES PATENT AND TRADEMARK OFFICE

57
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,117	10/17/2001	Robert E. Haines	10003225-1	5546

7590 07/13/2005
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

DIVINE, LUCAS

ART UNIT	PAPER NUMBER
----------	--------------

2624

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/981,117	Applicant(s) HAINES ET AL.	
	Examiner Lucas Divine	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/13/04, 10/17/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. On page 11 of the specification, applicant refers to a case by attorney docket number. Please update this to appropriate application or patent number; whichever is most up to date.

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 – 3, 11, 13 – 15, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Siwinski et al. (US 2002/0015066). *(note: when referencing locations in Siwinski paragraph numbers will be written p, for example paragraph [0003] will be referred to as p 3)*

Regarding claim 1, Siwinski teaches an **image forming device (10) comprising:**

a housing (The housing of printer 10, Fig. 1) **including a media path arranged to guide media** (media 24 [p 33] is guided from tray 20 to imaging drum 26 for printing [p 37]);

a sensor (50 with antenna 56h, Fig. 2) **configured**

to obtain encoded data from the media (data of media characteristic [type of media or other info, p 49] is sensed from transponder [54h] on receiver media; abstract lines 2-4; Fig. 2; p 12; p 14; p 19 teaches other encoded data that can be obtained; TABLE 3 [page 6]; p 50) **and**

to output a signal indicative of the encoded data (Fig. 2 shows antenna 56h outputting data through 58 and sensor 50 to processor 32); **and**
imaging circuitry (32 Fig. 2) **configured**

to form hard images upon the media (Figs. 1 and 2 show the printer that processor 32 controls to print),

to receive the signal (signal sent along transmission paths shown in Fig. 2 from transceivers 50 to processor 32) **and**

to perform at least one function with respect to the formation of the hard images within the image forming device responsive to the encoded data indicated within the signal (p 15, p 63).

Regarding claim 2, which depends from claim 1, Siwinski teaches **the sensor is configured to obtain the encoded data from the media comprising a plurality of discrete sheets** (24, Fig. 2, p 56).

Regarding claim 3, which depends from claim 1, Siwinski teaches **the imaging circuitry is configured to form the hard images upon the media according to an imaging parameter and to perform the at least one function comprising adjusting the imaging parameter** (p 4,

Art Unit: 2624

wherein adjusting printer functions based on imaging parameters is specifically suggested by Siwinski; p 63).

Regarding claim 11, which depends from claim 1, Siwinski teaches **the imaging circuitry is configured to print hard images upon media** (p 1, p 37).

Regarding claims 13, 14, 15, and 20, the structural elements of apparatus claims 1, 2, 3, and 11 (respectively) perform all of the method steps of method claims 13, 14, 15, and 20. Therefore the method claims are rejected for the same reasons as set forth in the rejections of the apparatus claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siwinski as applied to claims 1 and 13 above, and further in view of Mulay et al. (US 6398333).

Regarding claim 4, which depends from claim 1, Siwinski does not specifically teach **another sensor configured to monitor at least one ambient condition within the environment of the image forming device and to output a signal indicative of the at least**

Art Unit: 2624

one ambient condition, and wherein the imaging circuitry is configured to adjust the imaging parameter responsive to the signal from the another sensor.

However, Mulay teaches a sensor to detect the type of medium (col. 2 lines 2-5 and throughout) such as that of Siwinski but takes the preciseness further by adding **another sensor** (18, Fig. 1; abstract line 5) **configured to monitor at least one ambient condition** (temperature) **within the environment of the image forming device and**

to out put a signal indicative of the at least one ambient condition (temperature signal; abstract lines 6-7), **and**

wherein the imaging circuitry is configured to adjust the imaging parameter responsive to the signal from the another sensor (Fig. 3, temperature range parameter, col. 2 line 25; col. 4 lines 43-45 and discussed further in cols. 4-6).

It would have been obvious to one of ordinary skill in the art to also have internal ambient condition sensors be placed in the printer of Siwinski. The motivation for doing so would have been to control optimal temperature print ranges and ink drop properties based on both temperature and media type as explained by Mulay in col. 1 lines 25-57 and col. 2 lines 20-27.

Regarding claim 16, the structural elements of apparatus claim 4 perform all of the method steps of method claim 16. Therefore the method claim is rejected for the same reasons as set for the in the rejections of the apparatus claim.

Art Unit: 2624

5. Claims 5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siwinski as applied to claims 1, 3, 13, and 15 above, and further in view of Kawabata et al. (US 5905925).

Regarding claim 5, which depends from claim 3, while Siwinski teaches running a stored program controlling printing that uses saved initial variables (p 63 – initial settings placed into storage when a media type first loaded [p 64]), Siwinski does not specifically teach **an interface configured to receive updated settings and wherein the storage circuitry is configured to store the updated settings to replace the initial settings.**

Kawabata teaches **an interface (Fig. 3B) configured to receive updated settings** (characteristic input in the lower right is a button to select to update the settings for any of the media types) **and wherein the storage circuitry is configured to store the updated settings to replace the initial settings** (col. 3 lines 10-20; col. 9 lines 50-51; col. 9 line 66 – col. 1 line 2; col. 10 lines 40-42).

It would have been obvious to one of ordinary skill in the art to allow the user to update imaging parameters for different media types in the system of Siwinski. The motivation for doing so would have been to have the most precise up-to-date imaging parameters. Since many factors and conditions can change in media, printers, and printer elements, if any of these change significantly for any reason, it might be appropriate to adjust imaging parameters to keep the output of the printer optimal. Further, Siwinski teaches that data can be written onto media as encoded data (p 17) and that if the media is taken to another device, the new updated settings could go with it (p 22). This would be another advantage of updating the printing characteristics of the type of media.

Regarding claim 17, the structural elements of apparatus claim 5 perform all of the method steps of method claim 17. Therefore the method claim is rejected for the same reasons as set for the in the rejections of the apparatus claim.

6. Claims 6, 7, 10, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siwinski as applied to claims 1 and 13 above, and further in view of Matthews et al. (US 2002/0097422).

Regarding claim 6, which depends from claim 1, while Siwinski teaches displaying printer messages (p 37, specifically discussed are maintenance and error messages) to control console 30 through the interface (see line in Fig. 2 between 30 and 32) external of the printer, Siwinski does not specifically teach that the message identifies the media.

Matthews teaches sending a error message to a user identifying the media that is causing troubles (Fig. 2; p 22).

It would have been obvious to one of ordinary skill in the art that one of the error type messages in the system of Siwinski could have been identifying which media is causing jams as shown in Matthews. The motivation for doing so would have been to prevent errors that are caused by that specific media.

Regarding claim 7, which depends from claim 6, the combination of Siwinski (teaches type) and Matthews (teaches brand) could display both in the error message.

Regarding claims 18 and 19, the structural elements of apparatus claims 6 and 7 (respectively) perform all of the method steps of method claims 18 and 19. Therefore the method claims are rejected for the same reasons as set for the in the rejections of the apparatus claims.

Regarding claim 10, which depends from claim 1, while Siwinski teaches a media supply (tray 20) that can have the receiving transceiver antenna 56h on it (p 38, 15) and media that individually has encoded data (Fig. 2, 24), Siwinski does not specifically teach that there are multiple trays with multiple sensor antennas.

Matthews teaches a printer with multiple trays (p 14) that supply different types of media to the printer.

It would have been obvious to one of ordinary skill in the art that multiple trays would be beneficial in the system of Siwinski in order to provide different types of media at the same time. Thus, a user would not have to switch out types of media when they want to use a different type. Further, sensing information including media type is an object of Siwinski, so in a system with multiple trays and media types, it would be obvious to have an additional sensor in each tray to report to the system what type of media is being printed on.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Siwinski and Matthews as applied to claims 6 and 1 above, and further in view of well known prior art.

Regarding claim 8, which depends from claim 6, while Siwinski teaches monitoring usage of consumables including print media and notifying a user of errors, Siwinski does not specifically teach the notification to be an order to assist with replenishment of the media.

However, Examiner takes Official Notice that well known prior art teaches notifying a user when a media consumable has run out or is low for the user to place an order for more to replenish the supply.

It would have been obvious to one of ordinary skill in the art to send the user a message to order more of a media consumable that has run out or is running low in order to provide for prevention of time when the printer cannot be used because the supplies are out.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Siwinski as applied to claim 1 above, and further in view of Matsuno et al. (US 6069641).

Regarding claim 9, which depends from claim 1, Siwinski teaches the idea that if a consumable is not compatible for some reason to temporarily disable printer operations (p 24).

Siwinski does not specifically teach the prevention of printing is one of the functions related to the encoded data read by the sensor [type of media for example].

However, Matsuno teaches that some printing systems or tasks require specific types of media and preventing use of the wrong type of media (col. 3 lines 42-48) and stopping the recording of information onto the media in response.

It would have been obvious to one of ordinary skill in the art to prevent imaging on types of media that would be detrimental to a task in order to produce optimal print results. Thus in

Art Unit: 2624

the combined system, the detected media type could be used to make sure that the media is the correct media for the current printer or task.

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Siwinski, Mulay, and Matthews.

Regarding claim 12, Siwinski teaches **an image forming device (10) comprising:**

a housing (10, Fig. 1) including a media path arranged to guide media (media 24 [p 33] is guided from tray 20 to imaging drum 26 for printing [p 37]);

an interface (line shown in Fig. 2 between external device 30 and printer processor 32) configured to implement communications externally of the image forming device;

a first sensor (50 with antenna 56h, Fig. 2) configured to obtain encoded data from the media (data of media characteristic [type of media or other info, p 49] is sensed from transponder [54h] on receiver media; abstract lines 2-4; Fig. 2; p 12; p 19 teaches other encoded data that can be obtained; TABLE 3 [page 6]) and to output a signal indicative of the encoded data (Fig. 2 shows antenna 56h outputting data through 58 and sensor 50 to processor 32); and

an image engine (imaging drum 26 which includes printhead 22) configured to print hard images upon the media according to an imaging parameter (p 63);

storage circuitry (not shown but inherent and referred to in spec [p 63] because the printer program is stored in the printer) configured to store a plurality of settings for the imaging parameter and corresponding to a plurality of respective media types (p 63 and 64); and

control circuitry (32, Fig. 2) configured to access at least one setting from the storage circuitry responsive to the signals from at least one of the first sensors (p 63) to control adjustment of the imaging parameter responsive to the at least one setting (p 15, p 63, p 64).

While Siwinski teaches a media supply (tray 20) that can have the receiving transceiver antenna 56h on it (p 38, 15) and media that individually has encoded data (Fig. 2, 24) and displaying printer messages (p 37, specifically discussed are maintenance and error messages) to control console 30 through the interface (see line in Fig. 2 between 30 and 32) external of the printer.

Siwinski does not specifically teach that there are multiple trays with multiple sensor antennas or that the message identifies the brand and type of media.

Matthews teaches a printer with multiple trays (p 14) that supply different types of media to the printer and sending a error message to a user identifying the media (including brand) that is causing troubles (Fig. 2; p 22).

It would have been obvious to one of ordinary skill in the art that multiple trays would be beneficial in the system of Siwinski in order to provide different types of media at the same time. Thus, a user would not have to switch out types of media when they want to use a different type. Further, sensing information including media type is an object of Siwinski, so in a system with multiple trays and media types, it would be obvious to have an additional sensor in each tray to report to the system what type of media is being printed on. It would have also been obvious to one of ordinary skill in the art that one of the error type messages in the system of Siwinski could have been identifying which media is causing jams as shown in Matthews. The motivation for doing so would have been to prevent errors that are caused by that specific media. Further, the

Art Unit: 2624

combination of Siwinski (teaches type) and Matthews (teaches brand) could display both in the error message.

Siwinski and Matthews do not specifically teach a second ambient sensor that affects the imaging parameters.

However, Mulay teaches a sensor to detect the type of medium (col. 2 lines 2-5 and throughout) such as that of Siwinski but takes the preciseness further by adding another sensor (18, Fig. 1; abstract line 5) configured to monitor at least one ambient condition (temperature) within the environment of the image forming device and to output a signal indicative of the at least one ambient condition (temperature signal; abstract lines 6-7), and wherein the imaging circuitry is configured to adjust the imaging parameter responsive to the signal from the another sensor (Fig. 3, temperature range parameter, col. 2 line 25; col. 4 lines 43-45 and discussed further in cols. 4-6).

It would have been obvious to one of ordinary skill in the art to also have internal ambient condition sensors be placed in the printer of Siwinski. The motivation for doing so would have been to control optimal temperature print ranges and ink drop properties based on both temperature and media type as explained by Mulay in col. 1 lines 25-57 and col. 2 lines 20-27.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US-4617580, Miyakawa, 10-14-1986: teaches apparatus for recording on different types of mediums including an optimal print density based on recording medium type.

US-6290318, Yasukawa, 9-18-2001: teaches color printer system for correcting colors depending on color of paper.

US-5757393, Suzuki, 5-26-1998: teaches image recording apparatus including reading a barcode with the type of recording medium and printing according to the type of medium.

US-6381422, Tanaka, 4-30-2002: teaches image forming apparatus for fine-adjusting a fixation speed of a development material in accordance with temperature control.

US-6203220, Takenoshita et al., 3-20-2001: teaches method, apparatus, and program for printing using modified print attributes including barcodes on media and storing parameters in storage.

US-6802659, Cremon et al., 10-12-2004: teaches arrangement for automatic setting of programmable devices and materials therefore including altering print attributes based on media type and signaling the operator for reloading prior to running out of media (col. 8 line 15).

US-6097497, McGraw, 8-1-2000: teaches system and method for automating print medium selection and for optimizing print quality in a printer including having the type and manufacturer imprinted as encoded information on media.

Art Unit: 2624

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucas Divine whose telephone number is 571-272-7432. The examiner can normally be reached on Monday - Friday, 7:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lucas Divine
Examiner
Art Unit 2624

ljd



**KING Y. POON
PRIMARY EXAMINER**